

**NAVAL POSTGRADUATE SCHOOL
Monterey, California**



THESIS

**THE ARMY'S READINESS CRISIS:
THE COST OF DOING TOO MUCH WITH TOO LITTLE**

by

David J. Wilberding

December 1998

Thesis Advisors:

Gordon McCormick
Bard Mansager

19990122 105

Approved for public release; distribution is unlimited.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED	
	December 1998	Master's Thesis	
4. TITLE AND SUBTITLE THE ARMY'S READINESS CRISIS: THE COST OF DOING TOO MUCH WITH TOO LITTLE			5. FUNDING NUMBERS
6. AUTHOR(S) Wilberding, David J.			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING / MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE	
13. ABSTRACT To improve its declining combat readiness the Army is requesting a significant budget increase. The Army plans to use the increase for primarily improving quality of life issues. This thesis argues that this plan is inadequate and will result in only marginal readiness gains. The purpose of this thesis is to explore the underlying causes of the readiness crisis and to offer an alternative framework for reversing the decline. This thesis begins by defining readiness from the perspectives of operational and structural readiness. It then explores the critical readiness questions of: What should be ready? What should it be ready for? and When should it be ready? The thesis also examines the impact of the drawdown and commitments to peace operations (POs) on Army readiness. To illustrate the influence of these variables on readiness, this thesis develops a readiness threshold model that measures the capacity of a given force to participate in POs before its readiness deteriorates. By using the model to analyze the current size of the force in relation to its PO commitments, this thesis finds that the cost of doing too much with too little is a reduction in the Army's combat readiness. The thesis concludes by examining both policy implications and prescriptions derived from this study.			
14. SUBJECT TERMS Readiness, Peace Operations, Drawdown, Major Theater War, Budget Increase, Later Deploying Division, Contingency Division			15. NUMBER OF PAGES 100
16. PRICE CODE			
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL

Approved for public release; distribution is unlimited

**THE ARMY'S READINESS CRISIS:
THE COST OF DOING TOO MUCH WITH TOO LITTLE**

David J. Wilberding
Captain, United States Army
B.S., Michigan State University, 1988

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN DEFENSE ANALYSIS

from the

**NAVAL POSTGRADUATE SCHOOL
December 1998**

Author:

D. J. Wilberding
David J. Wilberding

Approved by:

Gordon H. McCormick
Gordon H. McCormick, Thesis Advisor

Bard K. Mansager
Bard K. Mansager, Thesis Advisor

Maurice D. Weir
Maurice D. Weir, Chairman
Special Operations Curriculum
Committee

ABSTRACT

To improve its declining combat readiness the Army is requesting a significant budget increase. The Army plans to use the increase for primarily improving quality of life issues. This thesis argues that this plan is inadequate and will result in only marginal readiness gains. The purpose of this thesis is to explore the underlying causes of the readiness crisis and to offer an alternative framework for reversing the decline.

This thesis begins by defining readiness from the perspectives of *operational* and *structural* readiness. It then explores the critical readiness questions of: What should be ready? What should it be ready for? and When should it be ready? The thesis also examines the impact of the drawdown and commitments to peace operations (POs) on Army readiness. To illustrate the influence of these variables on readiness, this thesis develops a readiness threshold model that measures the capacity of a given force to participate in POs before its readiness deteriorates.

By using the model to analyze the current size of the force in relation to its PO commitments, this thesis finds that the cost of doing too much with too little is a reduction in the Army's combat readiness. The thesis concludes by examining both policy implications and prescriptions derived from this study.

TABLE OF CONTENTS

I. INTRODUCTION	1
A. BACKGROUND	1
B. THESIS OBJECTIVES	14
C. METHODOLOGY	15
D. ORGANIZATION	17
II. PHASE 1: FACTORS AFFECTING READINESS	19
A. DRAWDOWN FACTORS	19
B. READINESS EFFECTS OF POs	23
C. SUMMARY	31
III. PHASE 2: THE READINESS THRESHOLD MODEL	33
A. THE CONCEPT OF A READINESS THRESHOLD	33
B. THE READINESS THRESHOLD AND THE ROTATION EFFECT	35
C. THE THRESHOLD AND DEPLOYED AND SUPPORTING EFFECTS	37
D. DETERMINATION OF THE THRESHOLD FOR THE LATER DEPLOYING DIVISIONS	39
E. SUMMARY	42
IV. PHASE 3: APPLYING THE READINESS THRESHOLD MODEL	43
A. THE THRESHOLD AND CURRENT READINESS	43
B. FUTURE READINESS: ANOTHER PEACE OPERATION	47
C. EXTENDING THE MODEL BEYOND THE LATER DEPLOYING DIVISIONS	48
D. SUMMARY OF MODEL APPLICATIONS	50
V. PHASE 4: IMPLICATIONS AND FINDINGS	53
A. FINDINGS	54
B. IMPLICATIONS	56
VI. CONCLUSIONS	63
APPENDIX A. 36 MONTH READINESS DECLINE WHEN 3 BATTALIONS OF THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO	69
APPENDIX B. 36 MONTH READINESS DECLINE WHEN 6 BATTALIONS OF THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO	71
APPENDIX C. 36 MONTH READINESS DECLINE WHEN 12 BATTALIONS OF THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO	73
APPENDIX D. 36 MONTH READINESS DECLINE WHEN 15 BATTALIONS OF THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO	75
SELECTED BIBLIOGRAPHY	77
INITIAL DISTRIBUTION LIST	81

LIST OF FIGURES

1. Figure 2.1. Time between deployments determined by the fraction of the force deployed..... 30

2. Figure 3.1. Change in Readiness Thresholds 34

3. Figure 3.2. Readiness Thresholds of Later Deploying Divisions at Various Deployment Levels During a Three Year PO..... 38

4. Figure 4.1. Current Readiness of Later Deploying Divisions With a Three Battalion PO Commitment..... 45

5. Figure 4.2. Comparison of Readiness at Three and Six Battalion Deployments Between the Later Deploying Divisions and the Entire Army..... 49

x

LIST OF TABLES

1. Table 1.1. Declining Army Force Structure, 1989 to 1997	11
2. Table 1.2. Army Combat Battalions Committed to POs 1992-1998.....	13
3. Table 2.1. Organization of Army Divisions	20
4. Table 2.2. Characteristics of the Drawdown and POs That Degrade Readiness.....	32
5. Table 3.1. Derivation of the Readiness Threshold of the Later Deploying Divisions.....	36
6. Table 3.2. 36 Month Readiness Decline When 9 Battalions of the Later Deploying Divisions are Committed to a PO.	40

EXECUTIVE SUMMARY

The end of the Cold War presented many challenges for the Army. Not the least of these challenges was maintaining its combat readiness despite massive reductions in manpower and the increasing requirement to provide forces for peace operations (POs).¹ Recent congressional testimony by the Army Chief of Staff verified for the first time the widely held belief of the past few years that the Army had indeed lost the battle to maintain its combat readiness. To improve its readiness the Army is requesting a significant budget increase. The Army plans to use the additional funds for primarily improving quality of life concerns to include increasing military pay and retirement benefits.

The purpose of this thesis is to present an alternative perspective on (1) the factors that underlie the Army's readiness crisis and (2) the solutions required for real readiness improvements. These perspectives will go beyond much of the current analysis that suggests the readiness decline is simply the result of a declining defense budget. This alternate view also challenges the idea that the decline can be remedied with budget increases that focus

¹ POs are generally viewed as one of the Army's most demanding non-combat missions due to their usually prolonged nature and requirement for large number of combat forces.

largely on quality of life improvements. This thesis argues that to address the fundamental source of the readiness problem, the absolute size of the Army's combat forces must either increase or their commitment to peace operations must decrease.

This thesis begins by defining readiness from the perspectives of *operational* and *structural* readiness. Operational readiness addresses the efficiency or *quality* of a force of a given size. Conversely, structural readiness addresses the mass or *quantity* of an available force. It also explores the critical questions of; What should be ready? What should it be ready for? When should it be ready? In response, this thesis proposes that: 1) The Army's battalion level infantry and armor forces must be ready.² They must be fully trained and manned.

2) They should be ready to fight and win two Major Theater Wars (MTWs).³ 3) They need to be ready for both an

² I acknowledge that complete combat readiness is of course a function of other factors beyond the training and number of combat force on-hand. The availability of Combat Service Support units, equipment, morale and other variables definitely impact overall readiness. This thesis, however, focuses on the battalion level combat forces as the *principal* component of the Army's combat readiness.

³ The 1993 Bottom Up Review (BUR) recommended re-structuring the military to enable it to adequately respond to two Major Regional Contingencies (the 1997 Quadrennial Defense Review replaced this term with Major Theater War) occurring at the same time.

immediate or extended deployment to an MTW. In summary, for the purposes of this thesis, it is argued that the *quality* and *quantity* of infantry and armor units the Army provides for its MTW commitments is the principle measure of its degree of combat readiness.

Phase 1 of this study examines the role of two key variables, the drawdown and commitment to POs, on the Army's combat readiness. Phase 2 illustrates the impact of these variables on readiness through the development of a readiness threshold model that measures the capacity of a given force to participate in POs before its readiness deteriorates. Phase 3 applies the model to analyze current readiness in regard to the ongoing PO in Bosnia. This phase also analyzes the future readiness effects if the Army's current PO commitments increase. Phase 4 presents key findings and implications.

The central findings of this thesis are twofold. First, the Army's readiness crisis is in great part a function of the compounding, self-reinforcing impact of the drawdown and over-commitment to POs. Second, the quality of life "readiness fix" advocated by the Army will likely fall far short of coming to terms with reversing the long-term readiness decline of its combat forces.

The implications that flow from these findings suggest

that the Army may not have the ability to provide an adequate quantity of troops possessing the *necessary quality* that could fight and win two MTWs without significant risk. Taken a step further, application of the model also implies that the U.S. may need to re-address the viability of the two MTW concept in general. Other implications suggest both restructuring the current force size and reevaluating commitments to current and future POs.

The alternative perspective on readiness that this study advocates, that is, viewing the readiness decline from *both* the operational and structural perspectives of the drawdown and over-commitment to POs extends beyond just the Army's readiness crisis. The basic premise of the readiness threshold model could be used to analyze the readiness declines plaguing the rest of the Armed Forces

The fundamentals that underlie the readiness crises of the Army's sister services are the same as its own. Increasingly, the U.S. Military, not just the Army, is asked to do too much with too little.

I. INTRODUCTION

This readiness crisis didn't come out of nowhere.

Sen. Bob Smith⁴

If we don't do something we run the risk of returning to the 'hollow force' of the 1970s...

Army Chief of Staff, Gen. Reimer⁵

A. BACKGROUND

The end of the Cold War presented many complex challenges for the U.S. Army. Some of the more obvious challenges included the rise of asymmetric threats, the proliferation of weapons of mass destruction, and the harnessing of information technology. These important issues aside, there was perhaps a more fundamental challenge the Army faced (and still faces) that threatened its mission of fighting and winning the nations wars: maintaining its combat readiness.

Unfortunately it appears the dilemma of maintaining an acceptable level of readiness despite massive reductions in manpower and the increasing requirement to provide forces

⁴ Thomas E. Ricks, "Joint Chiefs Tell Senate Military Faces Readiness Crisis, Needs Bigger Budget," *Wall Street Journal*, 30 September, 1998, 6.

⁵ Ibid.

for peace operations (POs)⁶ has proven to be too great of a challenge for the Army. One of the first indicators of a decrease in the Army's readiness was a 1994 Army report that stated that three of its combat divisions had fallen below acceptable levels of combat preparedness.⁷ Since the report was issued, mounting anecdotal evidence suggests that the Army is entrenched in a severe readiness crisis. Recently, the commander of U.S. based Army Forces wrote a memo to the Army chief of staff which confirmed the spirit of these reports:

My assessment is not good news...We can no longer train and sustain the force, stop infrastructure degradation, and provide our soldiers the...programs critical to long-term success...This threatens our ability to mobilize, deploy, fight and win.⁸

The purpose of this thesis, therefore, is to identify the underlying causes of the Army's current readiness crisis and offer prescriptions for improving the Army's long term combat readiness.

⁶ POs are generally viewed as one of the Army's most demanding non-combat missions due to their usually prolonged nature and requirement for large number of combat forces.

⁷ Clarke, Philip C., *U.S. Military has a Readiness Gap* (Milford, Pa.: America's Future Inc., 1998, accessed 13 April 1998); available from <http://www.execpc.com/~jfish/fwiw/fwiw0130.txt>; Internet.

⁸ Jonathan Landay, "Signs of Erosion In the U.S. Military," *Christian Science Monitor*, 16 September 1998, 1.

1. Points of Confusion Concerning Readiness

As reports of the Army's readiness decline surfaced, a debate emerged over its extent and nature. A recent article from the Washington Post explains:

While senior members of President Clinton's national security team contend they have managed the post-Cold War drawdown more adeptly than other demobilization's this century, the republicans argue that U.S. forces have been cut too much and committed to too many overseas operations.⁹

Like most politically contentious issues, the debate over the extent of the purported readiness decline generated sharp disagreements over definitions.

Underlying these disagreements are at least three major points of confusion regarding readiness definitions including: 1) What should be ready? 2) What should a given force be ready for? 3) When should the force be ready? Discussion of the readiness issue without the framework these questions provide obscures a clear picture of the Army's true state of readiness.¹⁰

The Department of Defense (DOD) manages to avoid all three questions in an official readiness definition that states readiness is,

⁹ Bradley Graham, "Senators Scold Military Chiefs," *Washington Post*, 30 September, 1998, 2.

¹⁰ Richard K. Betts, *Military Readiness: Concepts, Choices, Consequences* (Washington D.C.: Brookings Institution Press, 1995), 33.

...the overall ability of forces to arrive where they're needed, on time, and prepared to effectively carry out assigned mission objectives for which they were designed.¹¹

Others offer differing opinions of what constitutes readiness. Dr. Richard Betts, of Columbia University, introduces the concepts of operational and structural readiness to the definitional debate. In his explanation operational readiness is "the ability of forces to fight immediately without training or extra mobilization".¹² This type of readiness addresses the efficiency or quality of a force of some given size. Indicators of operational readiness include both fill of assigned manpower and training status of individuals and units.

Conversely, structural readiness concerns the number of organized units that increase military power, but require time during a crisis to prepare for combat.¹³ This type of readiness addresses the mass or quantity of a force. Key indicators of structural readiness include the number of troops under arms and available units.

Dr. Betts, in his book, *Military Readiness, Concepts, Choices, and Consequences* explains that these two

¹¹ DOD Annual Defense Report, *Chapter IV Readiness* (Washington D.C., 1995, accessed 15 May 1998); available from http://www.dtic.mil:80/execsec/adr95/read_.html

¹² Betts, 33.

¹³ Ibid.

perspectives, operational and structural readiness, often compete for primacy and resources. He argues that in an era of declining defense budgets, the choice between quantity and quality,

...is analogous to that between fielding a full football team of eleven players who are flabby, do not all have helmets, and have not studied playbooks or practiced together, and fielding a team of eight who are in perfect physical condition, fully equipped, and have drilled to perfection. The former team is preferable if it has a month or so to get in shape, the latter if the game is to occur tomorrow.¹⁴

a. *Defining Readiness: What Should be Ready?*

In football, the unit of readiness measurement is the preparedness of the team. Other variables such as the draft, a team's scouting program, facilities, and salaries, while important, are subordinate to the fundamental readiness consideration: team readiness. The same can be said of Army readiness. The Army's basic unit of readiness, like that of a football team's, is its combat forces.¹⁵ Too often though, maintaining the readiness of this essential element is subordinated to other supporting issues such as recruitment, retention, modernization, facilities, maintenance, and quality of life issues. Again, like

¹⁴ Ibid.

¹⁵ For the purpose of this thesis, combat forces refer to the number of infantry and armor battalions currently available in the Army.

scouting and salaries in football, these issues while critical to the overall long-term success of combat forces, are not of *principal* importance.

b. Defining Readiness: Ready for What?

The Army, along with the rest of the armed services, claims its forces must be ready to fight and win two nearly simultaneous Major Theater Wars (MTWs). The 1993 Bottom Up Review (BUR) recommended re-structuring the military to ensure it could adequately respond to two Major Regional Contingencies (the 1997 Quadrennial Defense Review replaced this term with Major Theater War) occurring at the same time. Ostensibly, these conflicts would occur in the Middle East and Northeast Asia.¹⁶ Many defense experts, however, denounce the two MTW scenario as unrealistic based on the current threat and the supposed global primacy of the U.S. Armed Forces. Nonetheless, the ability to fight and win two MTWs remains the foundation of the current National Military strategy.

c. Defining Readiness: Ready for When?

The Army's degree of readiness should depend in part on when it would have to fight an MTW. The football analogy stated previously, concludes that while an

¹⁶ Sortor, Ronald E., *Army Forces for Operations Other Than War*, Santa Monica, California: RAND, MR-852-A, 1997, 2.

undermanned, fully trained team is more prepared for a game played tomorrow, a fully manned under-trained team would be better suited for a game played in a month. Similarly, if the Army is needed immediately to fight an MTW, as would be the likely case in a Korean MTW scenario, the operational "hair trigger" readiness of the force is most important. If, instead, the Army has six months to prepare to fight, as was the case in the Gulf War, a more "relaxed" structural readiness of the force is critical.

Given the difficulty in divining threats in the post-Cold War era (which drove the creation of the "two MTW strategy" in the first place) it is reasonable to assume that the Army should be ready for both an immediate MTW deployment and an "extended preparation" MTW deployment.

2. Definition Framework

With regard to the three questions posed earlier: 1) What should be ready? 2) What should it be ready for? 3) How soon does it need to be ready?, this thesis proposes the following: 1) The Army's battalion level infantry and armor forces need to be ready.¹⁷ This means they must be fully

¹⁷ I acknowledge that complete combat readiness is of course a function of other factors beyond the training and number of combat force on-hand. The availability of Combat Service Support units, equipment, morale and other variables definitely impact overall readiness. This thesis, however, focuses on the battalion level combat forces as the principal component of the Army's combat readiness.

trained and manned. 2) They must be ready to fight and win two MTWs. (3) They must be ready for both an immediate or extended deployment to an MTW. In summary, for the purposes of this thesis, it will be argued that the *quality* and *quantity* of infantry and armor units the Army provides for its MTW commitments are the principle measures of its degree of combat readiness.

3. The Foundations of the Readiness Crisis

The Army and the other services recently changed their position on the readiness of their forces. They now claim that there are serious readiness shortfalls within their respective services. In the words of the Chairman of the Joint Chiefs of Staff, General Shelton, readiness is "nosing down".¹⁸ The services now point to indicators like declining retention and recruitment statistics, lack of spare parts, canceled training, deteriorating retirement and health benefits, inadequate pay and housing, and lowered morale as proof positive of a readiness decline.¹⁹ During recent Congressional Testimony, Army Chief of Staff, General Reimer, stated "If we don't do something we run the risk of a return to the 'hollow force' of the 1970s, when spare

¹⁸ Steven Lee Myers, "Military Leaders Make Case To Clinton For More Money," *New York Times*, 16 September, 1998, Sec. A, 22.

¹⁹ Richter, Paul, "Military to Argue For More Funding," *Los Angeles Times*, 30 September 1998, 10.

parts were unavailable and morale plummeted."²⁰ To prevent the re-appearance of the "hollow force", the Joint Chiefs are requesting an increase in the defense budget. General Shelton is expected to request a \$25 billion annual increase in the Pentagon's 1999 budget. The Chairman,

...appears inclined to spend much of the increase on boosting military pay and military retirement benefits, despite a lack of clear evidence that doing so would address the military's readiness problems.²¹

In essence, with their request for a budget increase, the "Chiefs are pushing for...a comprehensive plan to signal to military people that they are needed, wanted, and valued."²²

This thesis argues that, in the short term, the Army cannot buy its way out of the readiness decline. While pressing quality of life issues rightfully demand improvements, enhancements in these areas are likely only to marginally boost readiness. Additionally, increases in training budgets and equipment modernization will surely increase readiness, but again only at the periphery. These stop-gap improvements cannot "fix" the readiness problem. To remedy the readiness crisis in the long term, the Army must

²⁰ Ricks, "Joint Chiefs Tell Senate," 6.

²¹ Ibid.

²² Pexton, Patrick B., "Dwindling Ranks," *Washington Post*,

look beyond the ancillary, reinforcing factors outlined above, and address the more significant underlying causes of the decline.

4. The Nature of The Drawdown and Peace Operations

This thesis argues that two major factors underlie the Army's readiness crisis. The first is the massive post-Cold War reduction of Army combat forces. The second is the sharp increase in Army PO participation during this same period. The combination of a small force, over-committed to POs, has had a *compounding* negative effect on the Army's readiness. This thesis will show how POs negatively affect the *quality* or operational readiness of combat forces, as the drawdown simultaneously reduces the structural readiness or *quantity* of the available force. While other factors such as morale, quality of life concerns, spare parts shortages and canceled training most certainly contribute to the decline, they simply serve to *reinforce* and extend its pervasiveness. The bedrock cause of the decline is simple: the Army is being called upon to do too much with too little.

a. The Drawdown

Since the end of the Cold War, the Army has drastically reduced its operating budgets, manpower, and infrastructure. Overall, the Army reduced its total strength

by thirty-six percent. Table 1.1 depicts the decline in Army manpower at the division level.

Table 1.1. Declining Army Force Structure, 1989 to 1997

YEAR	ACTIVE DIVISIONS	ACTIVE END-STRENGTH
1989	18	770,000
1997	10	495,000

Source: Taw, Jennifer M., David Presselin, Maren Leed, *Meeting Peace Operations' Requirements While Maintaining MTW Readiness*, Santa Monica, California: RAND, MR-921-A, 1998, 5.

On the surface, it is plausible that the drawdown alone could jeopardize the Army's ability to provide adequate forces for even one MTW. The numbers from Table 1.1 seem to support this idea.²³ After all, the Army committed roughly ten of its 1991 inventory of eighteen divisions to the Gulf War. It seems likely that another regional conflict of the same scale would require a similar commitment of Army forces. It follows that, apart from any other problems, the Army is arguably not ready for one future Gulf War style MTW, much less two. The Army simply does not have enough forces to do the job. This point reinforces the argument

²³ Because some of the 1991 era divisions were round out units, the number of active divisions decreased by forty-five percent while the total force decreased by thirty-six percent.

that as a result of the drawdown, the structural readiness of the Army's combat forces is inadequate.

Army planners, however, believe a future MTW will require only four to five divisions.²⁴ Based on this assumption, the current ten-division force would provide adequate forces even in the worst case scenario of two simultaneous MTWs. While the number of divisions needed for an MTW is debatable, *what is not debatable is that due to the drawdown, today's Army has significantly fewer forces available to fight an MTW than it did during the Gulf War.*

b. Peace Operations

It is also clear that even as the Army reduced its force, it increased its participation in peace operations.²⁵ Because peacekeeping and peace enforcement missions typically employ a large contingent of Army combat forces (as does, of course an MTW) any degradation of a combat unit's readiness as a result of PO participation will directly affect that unit's readiness for its MTW role.²⁶ Successive missions in Somalia, Haiti and Bosnia demanded a

²⁴ Sortor, 2.

²⁵ Richard Parker, "Readiness May Decline, Pentagon to Warn Senators," *Philadelphia Inquirer*, 28 September 1998, 8.

²⁶ As such, this thesis does not address the support to diplomacy subset of peace operations because it does not typically require combat forces.

steady commitment of Army combat forces, (and in the case of Bosnia, continue to demand) despite the simultaneous decline in the available force.²⁷ Table 1.2 depicts the number of combat battalions (infantry or armor) required by these missions.²⁸

Table 1.2. Army Combat Battalions Committed to POs 1992-1998

LOCATION	DATES	MAJOR ARMY UNITS	OPERATION	NUMBER OF BNS
Somalia	1992-94	10 th Mtn. Div.	Restore Hope Continue Hope	6
Haiti	1994-96	10 th Mtn. Div.	Uphold Democracy *UNMIH	3
Bosnia	1995-Present	1 st AR Div. 1 st IN Div.	Joint Endeavor Joint Guard	3

(* UNMIH- United Nations Mission In Haiti)

While proof that these missions necessarily degraded the readiness of the combat units that participated in them is not definitive, a growing body of anecdotal evidence from

²⁷ Other significant POs of the post-Cold War era include the ongoing mission in the Sinai as well as operations in Rwanda and Macedonia. This study focuses on the POs listed in Table 1.2 because of the large number of forces required and their longer duration.

²⁸ This number refers to the average number of battalions deployed at one time throughout the period of the operation. For instance, the ongoing Bosnia mission requires the constant presence of three battalions, which rotate every four months.

the field suggests they may have.²⁹ If peace operations do degrade readiness, it follows that as the Army downsized and PO commitments increased, readiness should have started to decline. This has now occurred. It appears, therefore, that the Army's post-Cold War operational readiness decline is directly correlated to its participation in POs.

The onset of the readiness crisis coincided with the accelerated post Gulf War drawdown and PO missions in Somalia and Haiti. As both the drawdown and PO participation increased, reports of a readiness decline continued to deepen. For instance, in 1995, long before recent official recognition of the readiness problem, the current Chairman of the House Armed Services Committee Senator Floyd Spence in a letter to the Deputy Defense Secretary, observed,

U.S. military units are caught in the early stages of a downward readiness spiral that shows no prospect of easing in the foreseeable future...wholesale categories of combat units are in a reduced state of readiness...³⁰

B. THESIS OBJECTIVES

The overall objective of this thesis is to present alternative perspectives on: 1) the factors that underlie the Army's readiness crisis and 2) the solutions required

²⁹ Taw, Persselin, Leed, 33.

³⁰ Clarke, 1.

for real readiness improvements. These perspectives will go beyond much of the current analysis that suggests the readiness decline is simply the result of a declining defense budget. By implication, it also challenges the assumption that the decline is easily remedied with budget increases that focus largely on quality of life improvements. This thesis argues that to address the fundamental source of the readiness problem, the absolute size of the Army's combat forces must either increase or their commitment to POs must decrease. Four distinct phases will be used to present this argument.

C. **METHODOLOGY**

1. **Phase 1**

Phase 1 of this thesis identifies and describes the characteristics of the drawdown and POs that impact Army combat readiness. The goal of this phase is to outline the key factors of the drawdown and POs that are critical to the development of a model that measures declining readiness.

The key factors of the drawdown include the post-Cold War reduction of infantry and armor battalions from 160 to ninety. One of the key factors of POs is the actual erosion of combat skills suffered by deployed and supporting PO units. Additional PO factors address the duration of the

peace operation, the unit rotation cycle, and the time in between unit rotations.

2. Phase 2

Phase 2 involves the development of a two-stage model that measures the Army's combat readiness decline based on the characteristics described in Phase 1. The goal of this phase is to clearly describe the linkage between POs, the drawdown, and readiness.

The model's first stage presents the idea of a readiness threshold. The threshold refers to the maximum number of units of an available force that can continually deploy to support a protracted PO before the readiness of the force rapidly deteriorates. The threshold represents the "breaking point" for readiness. When the number of forces deployed exceeds the threshold the impacts outlined in Phase 1 combine to eventually degrade combat readiness throughout the entire force. The second stage of the model depicts how, even if the number of units deployed are below the threshold, readiness still declines but at a more gradual rate.

3. Phase 3

Phase 3 applies the threshold model to analyze not only the current impact of the drawdown and POs on the Army's

combat readiness, but also to predict the consequences of future PO commitments on readiness.

4. Phase 4

The final phase contains the key findings and implications of this study.

D. ORGANIZATION

The thesis has six chapters. Chapter II (Phase 1) explains the PO and drawdown characteristics that affect readiness. Chapter III (Phase 2) explains the development of the readiness threshold model. Chapter IV (Phase 3) applies the model in assessing the current and future readiness of the Army. Chapter V (Phase 4) contains the findings and implications from these applications of the model. Chapter VI presents conclusions drawn from this thesis.

II. PHASE 1: FACTORS AFFECTING READINESS

This chapter identifies specific ways in which the drawdown and POs degrade the Army's combat readiness. Additionally, the chapter outlines key assumptions based on these characteristics. Identification of the structural and operational readiness declines caused by the drawdown and POs respectively, is the first step in establishing the linkage between these two variables. Chapter III expands this linkage into a model that measures Army combat readiness based on the characteristics and assumptions in this chapter.

A. DRAWDOWN FACTORS

1. Reduction of Available Force

Perhaps the most obvious impact of the drawdown on the Army's readiness is simply the reduction of its personnel strength. As previously discussed, the drawdown cut over one third of the Army's manpower. In terms of infantry and armor combat units, the Army shrank from a 1991 high of 160 battalions, to the current number of ninety. These remaining battalions constitute the ten-division force recommended in the Bottom Up Review.³¹

³¹ Sortor, 8.

2. Contingency and Later Deploying Divisions

Interestingly, the Army split the remaining ninety battalions (or ten divisions) into two categories, Contingency and Later Deploying.³² Table 2.1 depicts this split.

Table 2.1. Organization of Army Divisions

CONTINGENCY	LATER DEPLOYING
82 nd Airborne Div.	10 th Mountain Div. (L)
101 st Air Assault Div.	25 th Infantry Div. (L)
1 st Cavalry Div.	1 st Armored Div.
3 rd Infantry Div. (Mech.)	1 st Infantry Div.
2 nd Infantry Div.	4 th Infantry Div. (Mech.)

In the event of an MTW the Army will first deploy its Contingency divisions.³³ Because they deploy first, these units maintain a steady 98-100 percent of their authorized personnel.³⁴

The remaining five divisions, roughly half of the Army's active combat units, are designated as Later

³² See Statement of Gebicke, Mark E., U.S. General Accounting Office, *MILITARY READINESS: Observations on Personnel Readiness in Later Deploying Army Divisions*, 20 March 1998, GAO/T-NSIAD-98-126, 6.

³³ The 2nd ID is not a true Contingency Division. It is already forward deployed in the Republic of Korea.

³⁴ Gebicke, 2-3.

Deploying forces.³⁵ These units are intended to either reinforce contingency units or deploy in support of a second MTW. Later Deploying units have no minimum personnel level. In the aggregate, they maintain approximately ninety-three percent of their authorized personnel.³⁶

A recent Government Accounting Office (GAO) report, however, explains how aggregate numbers may mask crippling personnel shortages in Later Deploying divisions:

...aggregate numbers do not adequately reflect the condition that exists within individual battalions, companies, and platoons of these divisions. This is because excess personnel exist in some grades, ranks, and skills, while shortages exist in others. For example, while the 1st Armored Division was staffed at 94 percent in the aggregate, its combat support and service support specialties were filled at below 85 percent, and captains and majors were filled at 73 percent.³⁷

This report and others like it indicate that readiness problems, induced by severe personnel shortages, are rampant in the Later Deploying divisions.³⁸ Based on personnel

³⁵ The 4th ID has been "off-line" for two years in its role as the Army's experimental Force XXI Unit. Therefore, in this thesis, it is not considered an active unit capable of providing forces for an MTW.

³⁶ Gibicke, 3.

³⁷ Ibid., 3.

³⁸ The GAO report on Later Deploying divisions made the following claims: one third of infantry squads and all of the anti-tank units were unmanned in the 10th Infantry Division's First Brigade, almost half of the infantry squads

shortages alone, it is quite possible that the readiness of these units is considerably less than that of the Contingency divisions. For the purpose of this study I assume that in the aggregate, the Later Deploying divisions maintain no more than a ninety percent readiness rating.

Establishment of a ninety percent readiness rating for the Later Deploying divisions is an attempt to capture the spirit of the GAO report that claimed personnel shortages and training deficiencies were prevalent in these units. In reality, the readiness rating of the Later Deploying divisions may be slightly higher than ninety percent. Given, however, the recent rash of anecdotal reports that suggest otherwise, it is plausible to assume the rating is actually much lower. Ninety percent, therefore, represents a reasonable "middle ground" for the combat readiness throughout the Later Deploying divisions.

3. Later Deploying Divisions as the De-facto PO Force

Personnel shortages, though, are not the sole readiness threat to Later Deploying divisions. Assignment to Peace Operations may pose a more serious danger. Surprisingly, during the post-Cold War era, these divisions executed the majority of the Army's peace operations. Examples include

in the 2nd Brigade, 1st Infantry Division had no personnel assigned, only 16 of 116 M1A1 tank crews of the 1st Armored Division's 3rd Brigade had full four man crews qualified to meet their wartime tasks.

the 10th Mountain Division's participation in Haiti and Somalia and the 1st Armored and 1st Infantry Division's commitments in Bosnia. Ostensibly, the Contingency divisions are "fenced" from POs in order to ensure their capability to deploy in support of an MTW.

If the Later Deploying divisions are primarily responsible for executing POs, the effects of POs (good or bad) will be more widely felt in these divisions. The Later Deploying divisions, therefore, offer an opportunity to assess the impact of POs on a "sub-category" of the Army. As such, in the next chapter on model development, this thesis will use the Later Deploying divisions' thirty three combat battalions as the base-line force with which to analyze the effects of POs on combat readiness.

B. READINESS EFFECTS OF POs

Three factors of POs have a direct, measurable effect on the readiness of the Army's combat forces: 1) the impact on deployed units, 2) the impact on supporting units, 3) and the impact of the rotation cycle.

1. Impact on Deployed Units

A recent RAND study suggests that many core PO tasks such as patrolling, security operations, and planning are similar to tasks required for combat operations.³⁹ The

³⁹ Taw, Presselin, Leed, 37-43.

report concedes, however, that while the basic tasks in each environment may be the same, their conditions and standards are likely very different. For example, during a PO, patrols are usually designed as a show of force. Therefore, patrols are often passive and may occur in daylight. In a combat environment the opposite conditions and standards exist for the same task. Patrols in this environment are aggressive, occur at night, and are designed with lethal intent. A 1st Armored Division soldier on duty in Bosnia captures the distinction between the conditions of combat and of POs by saying,

...our training was to maneuver and take the enemy out. Here we've had to learn a different concept. We had to learn not to shoot because you don't really know who your enemy is. You have to sit back, watch and try to keep the peace.⁴⁰

The authors of the RAND report claim there are ways to mitigate the negative impact of the difference in conditions and standards between combat and POs. They suggest options such as creating live fire ranges or conducting expert infantryman badge training will offset the deterioration of combat skills associated with POs.⁴¹

⁴⁰ Ibid., 37.

⁴¹ Ibid., 44. The authors also suggest that POs can improve a unit's combat readiness.

Many Army commanders disagree. They contend that the negative impacts of POs are real and hard to overcome. One battalion commander, recalling the post-PO mindset of his soldiers, summed up the impact of POs by saying,

...some times, there was some reluctance to shoot when shooting was appropriate...Soldiers do what they're trained to do, and it takes a long time to change that. There is not some switch that you can hit and say, "now you're a peacekeeper," or "now you're a warfighter." It's not that simple. It would be nice if it was, but it's not.⁴²

This study assumes that the readiness of a deploying combat unit degrades to some degree during deployment to a PO. The specific decline will depend on the nature of the PO. For instance, on occasion in Somalia, the 10th Infantry Division performed tasks under conditions very similar to combat. In this case, the degree of PO-induced operational readiness decline for these units might not be great. The 10th Infantry Division in Haiti, however, operated in a more benign environment. This mission, more than the Somalia operation, was likely responsible for a decline in the participants combat readiness.

⁴² See interview comments from LTC Ham, Commander of 1-6th Infantry Battalion. U.S. Army Center for Army Lessons Learned, Able Sentry Interview, Fort Leavenworth, Kansas: Center for Army Lessons Learned, 18 August 1995.

For the purpose of this thesis, It is assumed that a combat unit that deploys to a PO for an extended period suffers a thirty percent reduction in its combat readiness.

The use of thirty percent as the average readiness decline attempts to acknowledge anecdotal evidence from the field that suggests that POs negatively affect readiness. At the same time, this percentage highlights the assertion that not all POs will have the same effect. The decline in readiness could be much worse, say a fifty percent decline, or it might only be a ten to fifteen percent drop. Thirty percent represents a general range of these possibilities.

2. Impact on Support Units

The impact of a PO on the units that support deployed forces is also significant. In general, a roughly three to one ratio exists between the number of units deployed and the number required to support that deployment.⁴³ In this case, "supporting" refers to those combat units that are: stripped of personnel, prevented from executing collective training, and forced to increase their workload in order to support the deployed force.

Most units that deploy to a PO do so at or above their authorized personnel strength. Deploying units from Later Deploying divisions are no exception. To deploy at 100

⁴³ Sortor, 51.

percent strength, however, they must augment with personnel from other units. This process of transferring or "stripping" usually entails taking key leaders or critical military occupational specialties (MOSSs) from sister units to bring the deploying force to 100 percent strength.⁴⁴

Another impact on the stay-behinds is their inability to execute collective training. To illustrate, if one company of a battalion deploys to a PO, the remainder of the battalion is unable to effectively execute battalion level operations for the period of the company's deployment.

A third effect addresses the fact that the stay-behinds experience a workload increase as a result of a PO deployment. Again, when a company deploys, the rest of the battalion must execute a wide range of actions that combine to reduce available training time. These indirect support actions can range from supervision of the deployed unit's family support group, to execution of the deployed unit's habitual garrison taskings.

Conversely, more resources such as ranges and ammunition are available for the stay-behinds. Unfortunately, because of the initial reduction in personnel to support the deployed units, the stay-behinds may not be able to fully exploit these advantages.

⁴⁴ Taw, Pressilin, Leed, 15.

The operational readiness reduction borne by the forces that support the deployed during a PO are often overlooked. For the purpose of this study, readiness of a combat unit that supports a deployed force is assumed to decline by an average of twenty percent over the duration of the operation.

The establishment of this twenty percent decline attempts to address the concept that the impact on a unit's readiness goes beyond simply the forces that deploy to a PO. Again, this number, like the thirty percent decline of the deployed referenced previously, represents a range. The actual decline could be less or more depending on a variety of other factors.

3. Impact of the Rotation Cycle

The final impact of POs on a combat unit's readiness concerns the dynamics of the rotation cycle.

The effect of the rotation cycle is most apparent during a protracted PO. The longer the duration of the mission, the greater the likelihood that units will execute multiple rotations. The significance of the cycle becomes apparent when the time between deployments for units shrinks to less than twelve months. Most combat units, depending on the specifics of the PO, require an average of at least six months of retraining after deployment to regain their pre-

deployment readiness levels.⁴⁵ Some studies, however, suggest that not even one year between deployments may be enough time to maintain readiness. For example, in another RAND study, Jim Quinlivan suggests that,

If units have only a little more than a year for a cycle of retraining to original role, maintaining skills within their original role, and then training to special deployment tasks, it seems unlikely they will have time to progress to highly integrated combined arms training. ⁴⁶

This study captures the magnitude of the rotation effect on the available force. It explains that as the proportion of a given force deployed to an operation increases, the time in between deployments for follow-on units decreases. Figure 2.1 expresses this idea.

⁴⁵ Sortor, 49.

⁴⁶ Quinlivan, James, T., *Force Requirements in Stability Operations*, Santa Monica, California: RAND, RP-479, 68.

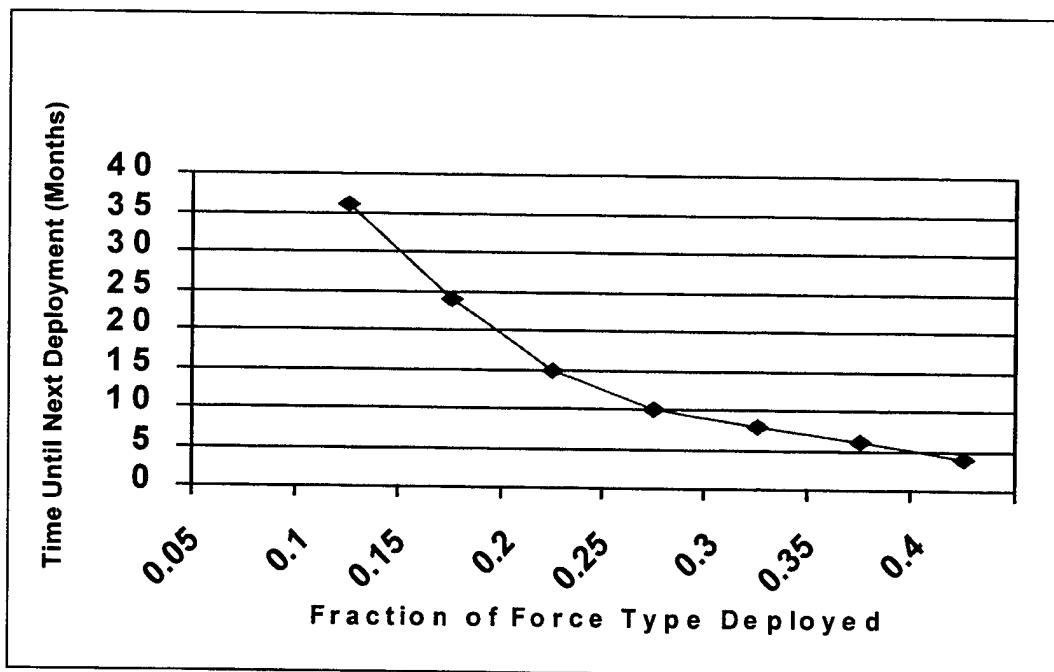


Figure 2.1. Time between deployments determined by the fraction of the force deployed.⁴⁷

This simple dynamic has powerful implications for units executing protracted POs. Figure 2.1 shows that with a four-month rotation cycle, the time to next deployment rapidly decreases with the fraction of the available force deploys. For example, when twenty percent of the available force deploys, the time until the unit's next deployment is sixteen months. When thirty percent of the force deploys, the time until next deployment shrinks to eight months.⁴⁸

It is also important to note that the percentage of readiness regained in a given recovery period varies for

⁴⁷ Ibid.

⁴⁸ Ibid., 67-68.

both supporting and deployed units. This study assumes that a unit recovers at least ten percent of its readiness with each four-month period of recovery time. For instance, at the end of a four-month PO rotation, the deployed unit's readiness has declined by thirty percent. At the end of the first four months of recovery its readiness improves to eighty percent. At the end of eight months of recovery its readiness reaches ninety percent. After twelve months, the unit is fully recovered and ready to re-deploy for another PO rotation.

In essence, the effect of the rotation cycle simply adds to the readiness decline of the deployed and supporting units. The repercussion of the rotation effect on a large commitment of forces to a protracted PO could easily, over time, cripple the readiness of the Later Deploying divisions and possibly the entire Army.

C. **SUMMARY**

Table 2.2 summarizes the characteristics of the drawdown and PO factors addressed in this chapter. It also includes the assumptions regarding how these factors specifically impact the readiness of the Army's combat forces.

Table 2.2. Characteristics of the Drawdown and POs That Degrade Readiness.

READINESS FACTORS	CHARACTERISTICS	IMPACT/ASSUMPTIONS
Drawdown	<ul style="list-style-type: none"> -Overall Force decline -Emergence of Contingency vs. Later Deploying Div. -Later Deploying Division. as primary PO force 	<ul style="list-style-type: none"> -160 vs. 90 Combat BNs -Contingency Div. @98-100% Ready -Later Deploy. Div. @90% Ready -33 of 90 BNs absorb PO effects
Peace Op.	<ul style="list-style-type: none"> -3:1 Ratio between Deployed and Support Force -Deployed Force -Support Force -4-Month Rotation Cycle 	<ul style="list-style-type: none"> -3 BNs deploying require 1 BN to support -30% Readiness Decline during 4 month deployment -20% Readiness Decline during 4 month cycle -Increase in deployed force = decrease in time between deployments -Each 4 months of recovery = a 10% readiness recovery for the deployed and support force

The next chapter, Phase 2 of this thesis, develops a model that depicts the linkage between the characteristics and assumptions regarding the Army's combat readiness that were presented in this chapter.

III. PHASE 2: THE READINESS THRESHOLD MODEL

The model to be developed in this chapter measures the effect on the Army's combat readiness when the operational readiness declines induced by POs combine with the structural readiness declines created by the drawdown. The model presents the concept that as the number of units deployed to a PO fluctuate, so does the readiness of the force contributing units to the PO. Specifically, when the number of units deployed falls below a certain limit or threshold, the readiness decrease felt by the contributing force is *additive* and *gradual*. Conversely, when the number of forces deployed exceed this threshold, the readiness decline of the contributing force is *geometric*, resulting in a *rapid, self-reinforcing* decline

A. THE CONCEPT OF A READINESS THRESHOLD

In the early 1990s, when the Army had 160 combat battalions (or eighteen divisions) and committed only a few to POs, the effect on the remaining battalions was hard to discern. For instance, the Multi-National Force and Observer mission in the Sinai, ongoing since 1982, requires a continual six month rotation of one infantry battalion task force. Prior to the drawdown, concerns as to how this

mission and others like it, (ones that required even more forces) might erode the combat readiness of the Army were almost non-existent. Today, however, because of the reduction in the number of available combat units, the impact of a PO of any size is more visible.

The drawdown revealed that there is a limit, or threshold, on the number of battalions the Army can commit to POs at one time before readiness of the total force deteriorates rapidly. Figure 3.1 depicts how this threshold, during the post-Cold War era, decreased as the number of combat battalions in the Army inventory declined.

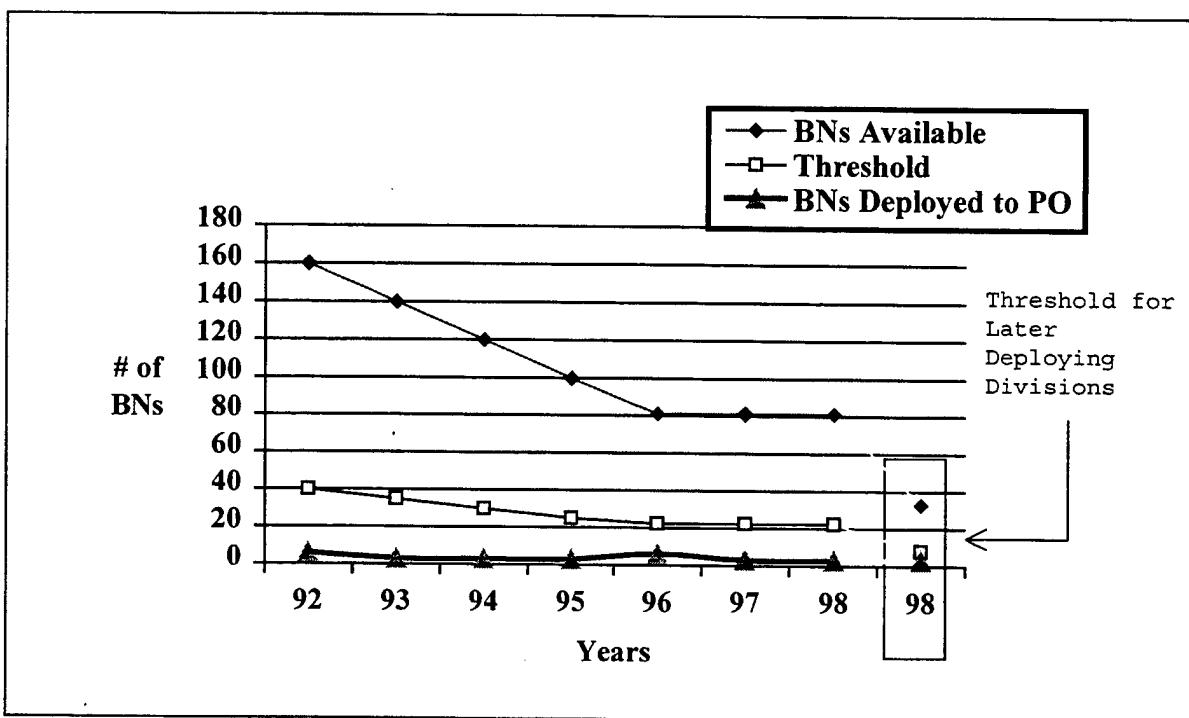


Figure 3.1. Change in Readiness Thresholds

In 1992, for instance, the eighteen division Army (160 combat battalions) had a PO threshold of approximately forty battalions. By 1997, the ten division Army's threshold dropped to 22.5 battalions. Even more significantly, by 1998, the readiness threshold for the Later Deploying divisions (the de-facto PO force) plummeted to only 8.25 combat battalions.

B. THE READINESS THRESHOLD AND THE ROTATION EFFECT

The character of the graph in Figure 3.1 indicates that the threshold is a constant twenty-five percent of the available force. The derivation of the twenty-five percent limit is based on some of the key characteristics and assumptions of the PO and drawdown factors presented in Phase 1. Specifically, the model reflects the impact of the rotation cycle--the amount of time a unit has before it must re-deploy to a PO depends on the fraction of the force deployed. The twenty five percent limit also applies to the additional Phase 1 constraints:

- 1) a protracted PO sustained by a four-month rotation cycle of combat battalions
- 2) a minimum requirement of twelve months between rotations

Applying these constraints to the thirty-three battalions of the Later Deploying divisions illustrates the

significance of the readiness threshold concept. It follows that, the Later Deploying divisions have a threshold of 8.25 battalions (twenty-five percent of thirty-three). If more than 8.25 battalions, for instance ten, (thirty percent) deploy to a protracted PO, seven of the ten, during the 4th rotation, will have to redeploy "early." In this sense "early" means the seven battalions will not have had a full twelve months to recover from their first rotation before they return for the second time. Table 3.1 outlines this process.

Table 3.1. Derivation of the Readiness Threshold of the Later Deploying Divisions

ROTATION	25 % DEPLOY (#BNS)	30 % DEPLOY (#BNS)	MONTHS OF RECOVERY
1	8.25	10	0
2	8.25	10	4
3	8.25	10	8
4	8.25	3	12

Readiness begins to decline when units must redeploy to a PO with less than twelve months between deployments. Mathematically, it is possible for the Later Deploying divisions to deploy twenty-five percent of its force indefinitely. Table 3.1 indicates that each rotation of 8.25 battalions has exactly twelve months of recovery time before

the next deployment. Re-deployment before the twelve month mark, however, initiates a chain reaction of readiness decline that forces each successive deploying force to rotate at a decreasing level of readiness. The implications of exceeding the readiness threshold are severe. If the Army deploys too many of its combat battalions in support of a protracted PO, it will eventually destroy its combat readiness.

C. THE THRESHOLD AND DEPLOYED AND SUPPORTING EFFECTS

While Table 3.1 explains the impact of deploying an increasingly larger number of battalions to a PO, it does not account for the thirty and twenty percent respective declines in the readiness of the deployed and support forces that participated in the PO. When the declines of the deployed and support forces are included in the model, it becomes apparent that even when the number of units deployed falls below the threshold, readiness of the entire force still declines. Figure 3.2 reflects the incorporation of deployed and supporting effects on the deployment of various levels of the Later Deploying divisions while maintaining the constraints addressed in Table 3.1.

Figure 3.2 depicts how a three year long PO would affect Later Deploying divisions at increasing levels of deployment. For example, when six battalions deploy, the

readiness of the entire force declines from ninety percent to eighty-six percent at the end of the four month rotation.⁴⁹

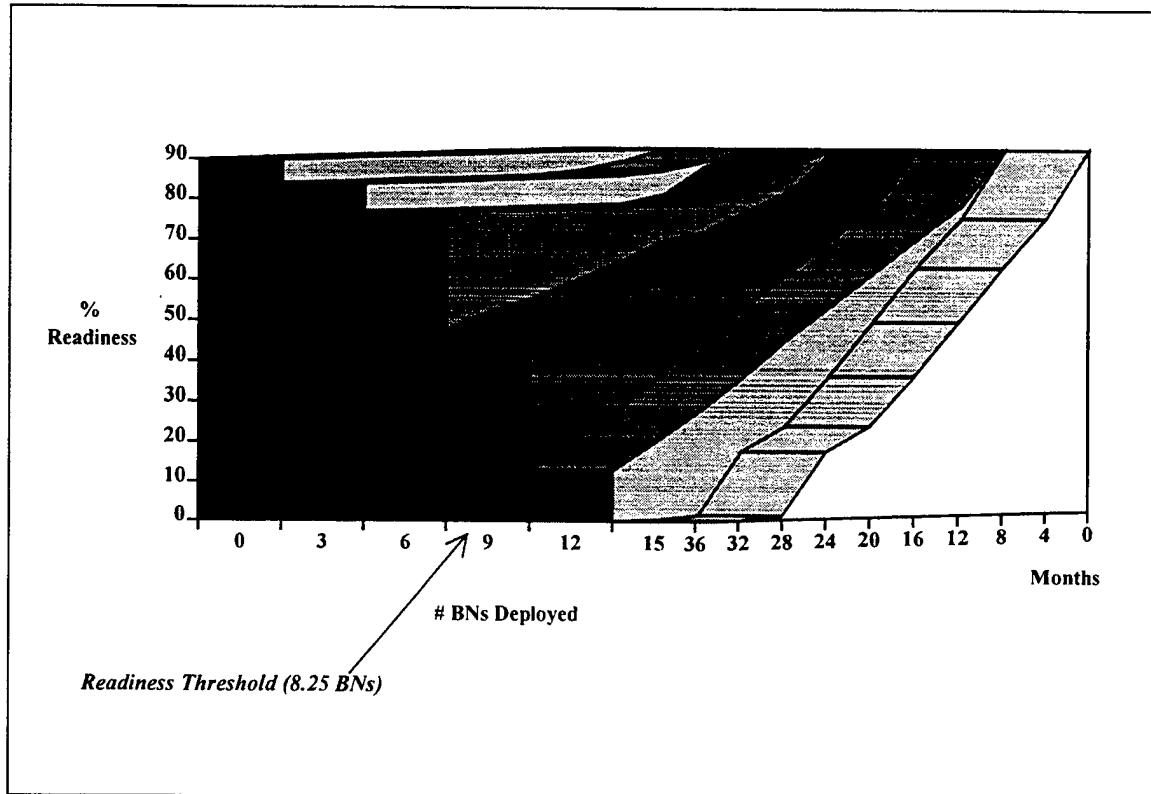


Figure 3.2. Readiness Thresholds of Later Deploying Divisions at Various Deployment Levels During a Three Year PO.

After the next four-month rotation, the readiness of the force drops to seventy-nine percent. After the third rotation, the readiness drops two more percentage points to seventy-seven percent, and levels off there after. The cumulative effect of a six-battalion PO commitment on the

⁴⁹ Again, the Phase 2 assumption contends that the Later Deploying divisions maintain only a ninety percent readiness rating at any one time.

Later Deploying divisions, therefore, is a loss of thirteen percent of the total readiness of the force. The thirteen-percent loss represents the additive, gradual decline of readiness when the number of units deployed is below the threshold.

Additionally, Figure 3.2 also shows that the commitment of twelve battalions (four units above the threshold) to a PO causes the readiness of the Later Deploying divisions to decline with each successive deployment without ever stabilizing. For instance, after one rotation of twelve battalions, the readiness of the Later Deploying divisions is seventy-six percent. After four rotations it drops to fifty-one percent. After eight rotations it falls to twenty percent. This pattern of decline represents the *rapid* self-reinforcing, geometric deterioration of readiness when the number of units deployed exceed the readiness threshold.

D. DETERMINATION OF THE THRESHOLD FOR THE LATER DEPLOYING DIVISIONS

Development of a tracking chart like the one in Table 3.2 assists in identifying the specific readiness declines portrayed in Figure 3.2.

Table 3.2. 36 Month Readiness Decline When 9 Battalions of the Later Deploying Divisions are Committed to a PO.

Months	Deployed@ %Readiness	Support@ %Readiness	Not Used % Readiness	Recovering % Readiness	Later Deploying Readiness
4	9@60	3@70	21@90	0	.80
8	9@60	3@70	9@90	9@70 3@80	.74
12	9@60	3@50		3@90 9@80 9@70	.70
16	3@60 6@50	3@70		3@90 6@80 9@70 3@60	.68
20	3@60 6@50	3@50		6@80 6@70 9@60	.62
24	6@50 3@40	3@50		12@70 9@60	.59
28	9@40	3@50		6@70 6@60 9@50	.55
32	9@40	3@40		6@70 6@60 9@50	.52
36	6@40 3@30	3@40		9@60 12@50	.48

Note: Recall from Phase 1 the assumptions that:

- 1) Readiness of Deployed Forces declines by 30% each rotation
- 2) Readiness of Supporting Forces declines by 20% each rotation
- 3) Readiness of Recovering Forces increases by 10% each rotation

Table 3.2 tracks the readiness of all thirty-three battalions of the Later Deploying divisions during a three-

year PO that requires a nine-battalion commitment.⁵⁰ The tracking process begins with the assumption of a "fair" sequence of deployment and support roles for all thirty-three battalions.⁵¹ For instance, during the first four month rotation, battalions 1-9 deploy, and battalions 10-12 support.⁵² For the next rotation, battalions' 13-22 deploy and battalions 23-25 support.⁵³ This "fair" sequence applies until units begin to re-deploy without the necessary twelve months between rotations.

Table 3.2 shows that with a nine-battalion commitment the first "early" redeployment occurs at the beginning of the third rotation or at twelve months. At this point, three of the nine units that, at the end of the second rotation, had recovered to only seventy percent, must serve "early" as the support force for the third rotation. After

⁵⁰ Appendixes A-D contain tables for rotations of three, six, twelve, and fifteen battalions.

⁵¹ When battalions are actually selected for commitment to a PO, a "fair" sequence of rotation is unlikely. Other factors ranging from real world commitments to rotations at command directed exercises would likely prevent a "fair" sequencing of the Later Deploying division's battalions to a protracted PO.

⁵² This maintains the 3:1 ratio mentioned in Chapter 2.

⁵³ During this second rotation, battalions 1-8 and 10-12 would begin their first four-month recovery period. Applying the ten percent recovery assumption from Phase 1, at the end of the four months, the readiness of 1-9 would improve to seventy percent. The readiness of 10-12 would improve to eighty percent.

the rotation its readiness reduced by another twenty percent, the supporting forces' readiness drops to fifty percent. From this point on, and throughout the rest of the protracted PO, units must either deploy or support at an increasingly lower level of readiness. For instance, at the end of twenty-four months, the deployed force is a mix of six units at only fifty percent readiness and three units at just forty percent readiness.

It is possible to calculate the readiness decline of the entire force at the end of each rotation iteration. The far right column of Table 3.1 contains the overall readiness percentage of the Later Deploying divisions at the different rotation intervals. The numbers represent the various readiness percentages of the iteration multiplied by the number of battalions at each percentage. Adding these products and then dividing by thirty-three yields quotients corresponding to the readiness declines in Figure 3.1.

E. SUMMARY

The Readiness Threshold model can be used as a tool to assess the impact of the drawdown and POs on the combat readiness of a given force. In the next phase, Phase 3, the model will be used to assess not only the Army's current combat readiness but also to predict the readiness impact of future PO commitments.

IV. PHASE 3: APPLYING THE READINESS THRESHOLD MODEL

The purpose of Phase 3 is to illustrate the utility of the Readiness Threshold Model as a viable tool to measure the structural and operational readiness declines caused by the drawdown and POs.

A. THE THRESHOLD AND CURRENT READINESS

Today the U.S. Army has one major PO commitment, *Operation Joint Forge* in Bosnia.⁵⁴ This mission requires a steady commitment of three infantry or armor battalions. To facilitate this commitment, the Army decided to institute a four-month rotation policy. Significantly, since its inception, one division at a time has had responsibility for the mission. The 1st Armored Division started the operation in December 1995. It executed three, four-month rotations using a brigade each time. In November of 1996 the 1st Infantry Division, which followed a similar rotation policy, replaced the 1st Armored Division. The 1st Armored again took over the mission in October of 1997. In fact, these two units, the 1st Armored and 1st Infantry Divisions are the

⁵⁴ Other commitments, such as the Multi-national Force and Observer Mission in the Sinai, currently exist, but for the purpose of this thesis are not considered major POs.

only major Army force participants in the Bosnia operation to date.⁵⁵

It is important to note that both of these units are members of Later Deploying divisions. Their assignment to the Bosnia operation supports the GAO claim, presented earlier, that the Later Deploying divisions are the Army's de facto PO forces.⁵⁶

The negative impact on the combat readiness of these two divisions from the Bosnia rotations was, and continues to be, significant. In a recent visit to Bosnia, Senator Carl Levin of the Senate Armed Forces Committee concluded, "the Pentagon should begin thinking about how to spread the mission's burden among more than just European-based U.S. forces".⁵⁷ The Senator's comments were a result of his concern that "readiness and morale will be degraded by multiple deployments to Bosnia."⁵⁸ Senator Levin's judgement

⁵⁵ Some other units, like the 10th Infantry Division and the 2nd Armored Cavalry Division provided additional units, but the majority of troops were from the 1st Armored and 1st Infantry Divisions.

⁵⁶ Other factors, however, like the proximity of these units to Bosnia could also explain their assignment to the mission.

⁵⁷ Maze, Rick, "Spread the Bosnia Burden Throughout," *Army Times*, Jan 1998, 14.

⁵⁸ Ibid.

was correct for reasons, in part, that he might not have fully appreciated.

Using the Readiness Threshold Model, it is possible to determine just how the Bosnia mission has negatively influenced the readiness of the Later Deploying divisions. The character of the chart in Figure 4.1 supports one of the main premises of the Threshold Model; when the number of forces deployed to a PO is below the threshold, readiness declines gradually and eventually stabilizes.

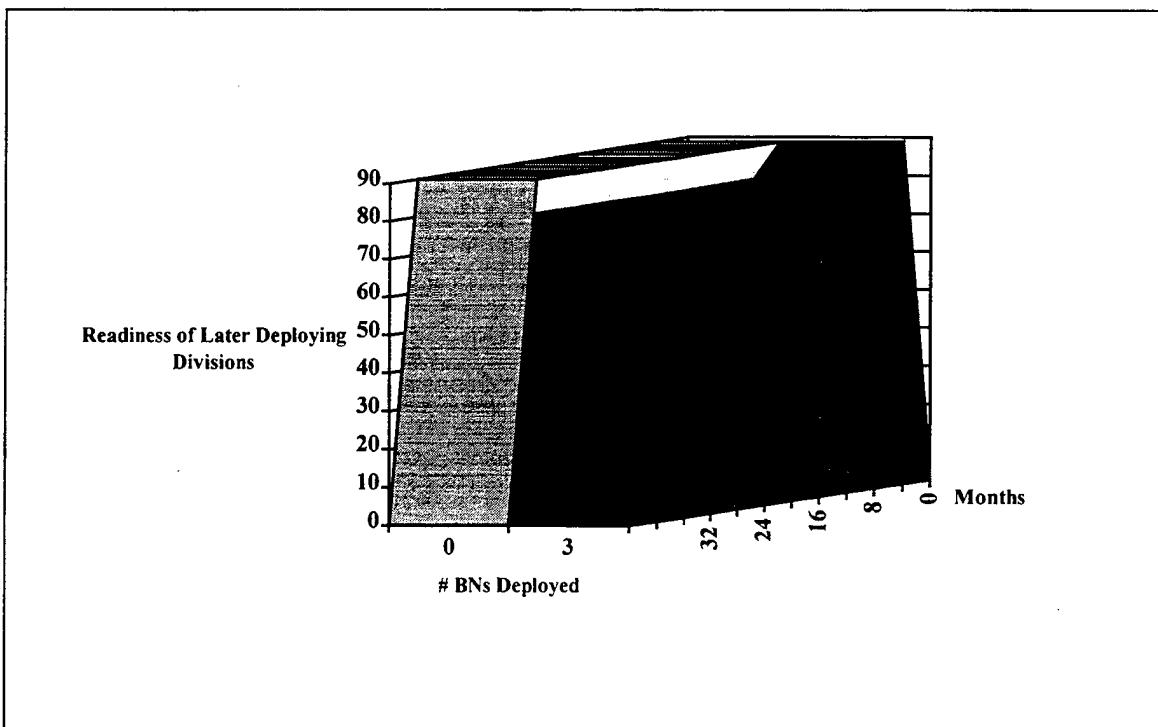


Figure 4.1. Current Readiness of Later Deploying Divisions With a Three Battalion PO Commitment.

The chart in Figure 4.1 indicates that after thirty-six months of three battalions rotating at four-month intervals,

the readiness of the Later Deploying divisions slips to approximately eighty four percent.

Use of the model to determine the readiness threshold of just the two units that have actually conducted the Bosnia mission during the past three years, reveals an even more alarming readiness shortfall. The readiness threshold for these two units (the 1st Infantry and 1st Armored Division's) is 4.5 battalions.⁵⁹ The model predicts that as the number of deployed forces reaches this limit, their readiness should decline more rapidly before stabilizing at a lowered readiness level. The current three battalion sustained deployment rate for *Operation Joint-Forge*, is dangerously close to this threshold. Therefore, the readiness declines experienced by the combat battalions committed to the Bosnia operations as observed by Senator Levin, are likely the predictable result of limiting the impact of a protracted PO to only a few units.

In addition, it appears the Army is re-thinking the wisdom of assigning to just a few units the burden of executing a protracted PO. Recently, for the first time in the post-Cold War era, the Army decided to commit a Contingency Division to a major PO. The 1st Cavalry Division

⁵⁹ The two divisions have a total of eighteen battalions. Using the calculations from Phase 2, the readiness threshold for these two units is approximately twenty-five percent or 4.5 battalions.

replaced the 1st Armored Division in Bosnia in November of 1998. This action may offer tacit recognition that the Later Deploying divisions, especially the 1st Infantry and 1st Armored, need relief from the corrosive readiness burden of a protracted PO. The repercussions of assigning these "first to fight" units to Peace Operations will be mixed at best. On the surface, assignment of PO responsibility to a contingency division will ease the readiness decline in the Later Deploying divisions. Unfortunately, it will also usher in a new readiness decline in the Contingency divisions. This decline directly threatens the Army's ability to provide operationally ready forces for an MTW.

B. FUTURE READINESS: ANOTHER PEACE OPERATION

If the use of the 1st Cavalry Division signals the Army's recognition that the burden of POs must be spread beyond the Later Deploying divisions, the burden of yet another PO might debilitate the Army's readiness to a point beyond affordable repair. What if for instance, the U.S. were to commit troops to a Bosnia-style PO in Kosovo? To begin with, the total number of battalions committed to POs would increase from the current number of three, to six. This increase would pose a significant problem for the Army. The main obstacle in this scenario initially might be to determine which unit should take on the Kosovo PO? If

another Contingency division were to receive the assignment the implications for MTW readiness become dire. Alternately, if a Later Deploying division were committed, this unit would forgo the relief from PO duty that the assignment of the 1st Cavalry to Bosnia was intended to provide in the first place.

C. EXTENDING THE MODEL BEYOND THE LATER DEPLOYING DIVISIONS

Extending the model beyond the scope of the Later Deploying divisions to encompass the entire Army provides a method to determine how a "two PO scenario" would affect total Army readiness.

Extension of the model in this manner requires calculating the readiness threshold for all of the Army's seventy-eight battalions. The threshold in this case is 19.5 battalions (or twenty-five percent of seventy-eight).⁶⁰

In the future scenario of an additional PO, the number deployed (six) is well below the threshold. Even though this number is less than even one third of the threshold, there is still however, a significant loss of readiness for the total Army. This loss is similar in scope to the readiness drop observed when three of the Later Deploying divisions

⁶⁰ Seventy-eight includes all of the Army's active infantry and armor battalions minus the nine battalions of the 4th Infantry Division currently committed to Force XXI.

thirty-three available battalions deploy to a PO. Figure 4.2 illustrates this comparison.

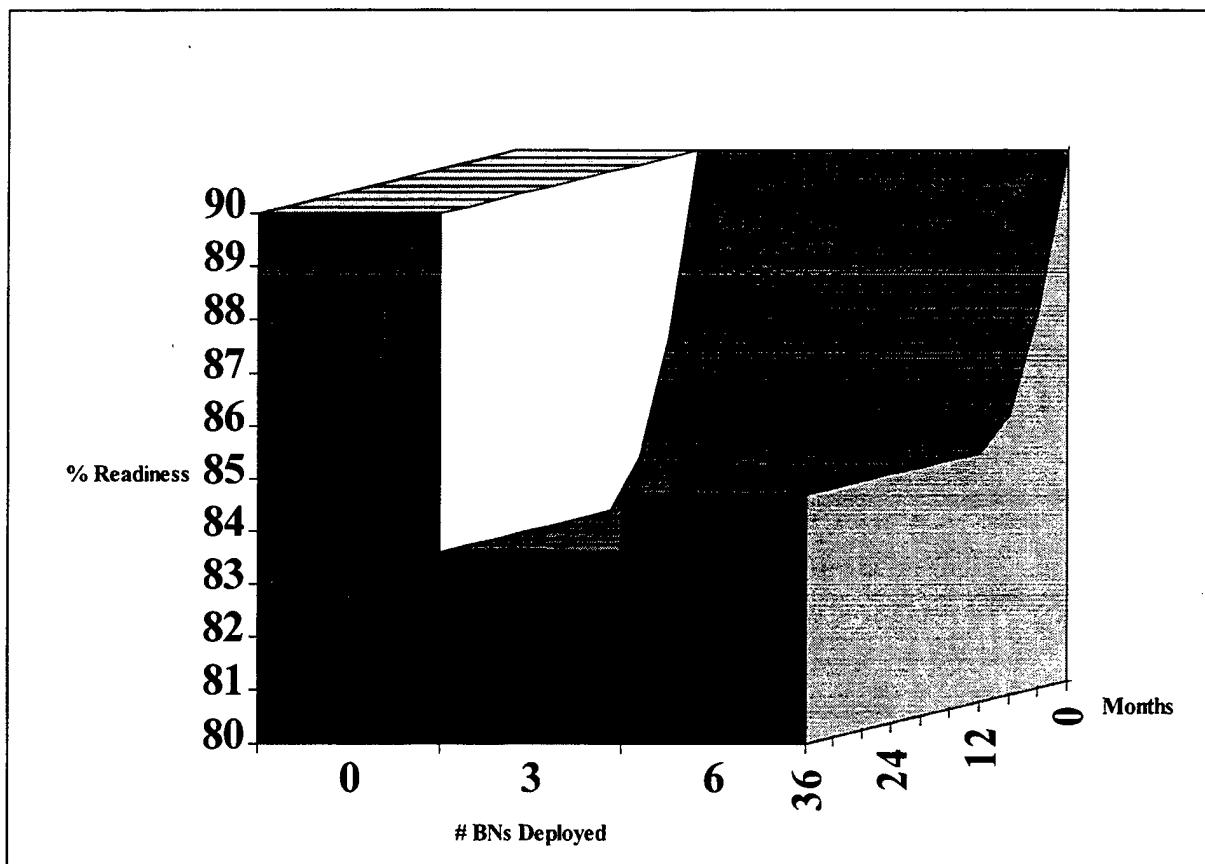


Figure 4.2. Comparison of Readiness at Three and Six Battalion Deployments Between the Later Deploying Divisions and the Entire Army.

The figure above shows that when three battalions from the Later Deploying divisions participate in a protracted PO, their readiness eventually declines by approximately 6.5 percent. Similarly, when six battalions deploy (regardless if they are from the Later Deploying divisions or not), the

Army as a whole loses more than five percent of its overall readiness.

D. SUMMARY OF MODEL APPLICATIONS

This analysis takes on even greater significance in conjunction with one of the key assumptions behind both the BUR and the QDR: the idea that in the event of an MTW, the forces executing PO would withdraw and prepare to deploy to the MTW. This assumption fails to fully consider the operational readiness decline that PO participation creates. The readiness model reveals that the forces executing a PO will not be completely *ready* for immediate MTW deployment. In fact, PO participation can easily cripple the readiness of committed forces and have a debilitating "ripple effect" on forces that are not deployed. Further, as the size of the force deployed increases, so does the magnitude of the negative effects on the rest of the force.

Aside from the obvious geo-political instability resulting from a PO withdrawal, (or quick hand-off to the reserves or foreign forces), the salient point of this analysis is that the units withdrawn from a PO will not be ready to deploy to an MTW without a significant amount of train-up time.

Using a worst-case example, if the U.S. was committed to two prolonged POs when an MTW broke out, of the seventy-

two available battalions, only thirty-six (four divisions) would be at (supposedly) 100 percent readiness. . The remaining thirty-six battalions would be at various levels of readiness. Some battalions would be ninety percent ready--not yet deployed to a PO. Some battalions would be only sixty percent ready---just returning from a PO rotation.

Expansion of the Readiness Threshold Model to include the Contingency divisions highlights the utility of the model as a tool to assess the readiness of the *entire Army* to execute an MTW. The following chapter addresses the model implications for MTW readiness as well as other concerns implied by the model.

V. PHASE 4: IMPLICATIONS AND FINDINGS

...coordinating simultaneous wars with the shrunken military of the post-cold war era would be a charade.

Dr. Richard Betts⁶¹

...an argument to increase the size of the Army would never sell...The point is we can't get any smaller than we are today.

Senior Army Official⁶²

The application of the model in the preceding chapter reveals several implications with potentially serious consequences for the National Military strategy. Not the least of these is that the Army may not have the ability to provide an adequate quantity of troops possessing the quality necessary to fight and win two MTWs without significant risk. Taken a step further, application of the model also implies that the U.S. Military strategy may need to re-address the viability of the two MTW concept. Other implications suggest both restructuring the current force size and reevaluating commitments to current and future POs.

This chapter will first outline the findings from this study and then address some of the policy implications that result from these findings

⁶¹ Betts, 51.

⁶² Sean Naylor, "Readiness for Two Wars in Question," *Army Times*, 14 September 1998, 10.

A. FINDINGS

1. First Finding

The central finding of this thesis is that the Army's readiness crisis is in great part a function of compounding, self-reinforcing declines in both its structural and operational readiness. Recall that operational readiness addresses the efficiency or quality of a given force. The important indicators of operational readiness include fill of assigned manpower in existing units and status of individual and unit training. Conversely, structural readiness focuses on the mass or quantity of a given force. Its important indicators are the numbers of troops under arms and available units.

The drawdown shrank the size of the Army. Subsequent personnel shortages occurred because the number of existing units exceeded the available force that could man them. It is reasonable, then, to suggest that the drawdown is responsible for the structural or quantity aspect of the readiness crisis. The operational or quality aspect of the decline is a function in great part due to participation in POs. *The negative impact of PO participation compounds the shortcomings of the Army's structural readiness problem.*

The current PO in Bosnia, for instance, forces units that already lack an adequate number of soldiers, to play a

"shell game" with personnel to meet the demands of continuous PO rotations. This "game" eventually causes a reduction in the operational readiness of the participating combat forces.

The results of model application from Chapter IV, indicate that due to the Bosnia PO alone, the total Army's readiness is currently down almost six percent. As previously noted, this drop in readiness is attributable to the *compounding effects of structural and operational readiness*.

If the current readiness crisis is viewed from the perspectives of both the quantity and quality of the available force, it becomes clear that more *cannot* be done with less without some costs. In this case, the readiness of its combat units is the cost incurred by the Army in over-committing its reduced force to POs.

2. Second Finding

The second finding of this study is that the current solution to the readiness crisis advocated by the Chief of Staff of the Army ignores the operational and structural impacts implied by the model. Rather than address the tension between size and commitment, the Army, as well as the other services, has instead mistakenly focused on quality of life issues as the most pressing aspect of the

readiness crisis. As such, the official solution to the readiness crisis is to overhaul the retirement system and close the pay gap.⁶³ Under this plan it appears that the Army is intent on bringing the actual capability of its existing units up to their potential, "by making its available mass as efficient as possible."⁶⁴

With this approach, the Army is clearly focusing on the operational aspect of readiness---improvement in the quality of the force, to reverse the readiness decline. Unfortunately, this is too narrow an approach as it ignores the operational readiness decline created by POs as well as the structural readiness decline ushered in by the drawdown. As a result, the quality of life "readiness fix" advocated by the Army will likely fall far short of reversing the long-term readiness decline of its combat forces.

B. IMPLICATIONS

1. Risk to MTW Success

To reiterate, the most significant implication derived from the findings of this study is the contention that the Army may have neither the quality nor the quantity of

⁶³ Testimony of Gen. Douglas Riemer. Congress, Senate, Committee on Armed Services, *Status of U.S. Armed Forces: Hearing before the Committee on Armed Services*, 105th Congress, 2nd Session, 29 September 1998.

⁶⁴ Betts, 41.

soldiers available to execute the National Military strategy without a significant increased risk. In this context, risk is not defined as risk of defeat, but rather the risk that the Army will be forced to incur a higher rate of casualties to achieve victory:

...citing the length of time it would take forces to reach a second conflict, Gen. Henry Shelton, the Chairman of the Joint Chiefs, recently ordered the risk of such a mission to be rated "high" for the first time...greater delay could lead to greater casualties.⁶⁵

The prognosis for a second MTW, however, is even bleaker when the impacts of the threshold model are considered. Increasingly, it appears that the structural readiness of the Army's current combat forces is simply inadequate for a "two MTW" military strategy. PO induced operational readiness declines serve only to reinforce this inadequacy. Despite the Chairman's recent claim that the Armed Forces are "ready to execute the National Military strategy, including two overlapping major theater wars," many others disagree.⁶⁶ For example, a senior Army official recently stated that "it was not clear that the Pentagon

⁶⁵ Parker, "Readiness May Decline," 8.

⁶⁶ Statement of Gen. Henry Shelton. Congress, Senate, Committee on Armed Services, *Status of U.S. Armed Forces: Hearing before the Committee on Armed Services*, 105th Congress, 2nd Session, 29 September 1998.

could carry out its stated mission to win two major regional wars at once...."⁶⁷ Furthermore, Dr. Betts suggests that:

...both the wars in Vietnam and the Gulf were undertaken by the hefty cold war military establishment. To pretend that the United States could do better in coordinating simultaneous wars with the shrunken military of the post-cold war era would be a charade.⁶⁸

If it is, however, possible in principle, as the Chairman suggests, to execute two MTWs with the current force, the readiness impact indicated by the model still must be considered. While it is possible to say the current force is capable of two MTWs it is quite another to explain how capable. The use of the Readiness Threshold Model in calculating the current readiness shortfall--an almost six percent drop in effectiveness--illustrates this point. While seventy-eight battalions are currently "on-hand", not all of these battalions, (due to current PO commitments), are "ready" for MTW participation. The *notional* effective readiness of these battalions is 100 percent. The *actual* effective readiness of these forces from the perspective of the model is only eighty-four percent.

2. A New Strategy?

Based on the argument outlined in this study, it may be time to consider altering the current "two MTW" National

⁶⁷ Myers, "Military Leaders Make Case." 22.

⁶⁸ Betts, 51.

Military strategy. This may be especially true since the remedies currently advocated for "curing" the readiness crisis will not significantly alter the structural and operational factors behind the decline. If, as Dr. Betts claims, the "two MTW" strategy is a "charade", its perpetuation serves only to complicate and confuse the readiness issue. Ostensibly, if the Army had to only contend with one MTW, its current readiness status, although problematic, would be more acceptable. Faced with only one MTW, the Army could eliminate a few divisions and more equitably spread personnel to ensure all units were 100 percent filled. Additionally, while the effects of POs would still be felt, there would be a reasonable assurance that the non-participating forces could handle one MTW even if their overall readiness was "down" due to the ongoing POs.

Beyond changing to a "one MTW" strategy, other suggestions include the idea of a win-hold-win concept. This strategy consists of "a plan to fight a defensive holding action for a prolonged period in a secondary theater," while fully prosecuting the primary war in the first theater.⁶⁹

⁶⁹ Ibid., 207.

3. Other Implications

Two other implications emerge from this study: increasing the force or decreasing participation in POs. Like changing the National Military strategy, these ideas are probably not politically tenable. Nonetheless they deserve consideration.

a. *Reevaluation of the Current Force Structure*

An increase in the size of the Army's combat forces will enhance the structural, long-term readiness of the Army. A significant increase in the number of combat units in the Army inventory would mitigate the operational readiness declines resulting from POs. A force increase would effectively spread the negative impacts of POs across a greater sized force. Additionally, a larger force would allow a more realistic expectation of executing a "two MTW" military strategy.

Again, in the post-Cold War era, and in the current environment of balanced budgets, an increase in the size of the Army's combat forces may not be a realistic goal. In the words of one senior Army official, "an argument to increase the size of the Army would never sell...The point is we can't get any smaller than we are today."⁷⁰

⁷⁰ Naylor, "Readiness for Two Wars in Question," 10.

b. Reevaluation of PO Commitments

Similarly, a reevaluation of the commitment of the Army's combat forces to POs would mitigate the short-term operational readiness decline these missions tend to create. A reduction in the number of units committed to POs and avoidance of future commitments would also improve the Army's structural readiness for the "two MTW" strategy.

The Kosovo scenario presented in Chapter IV addresses the impact of an additional Bosnia-style PO on the operational readiness of the Army. Before committing the Army combat forces to future POs, policy makers must be aware of the real potential of a readiness "free fall" as the number of units deployed to POs becomes closer to the readiness threshold of the total available forces.

The feasibility of actually reducing the current level or lowering the future level of PO commitment is slim. The National Security Strategy of Engagement and Enlargement implies a continued role for the Army's combat forces in POs for years to come.

VI. CONCLUSIONS

I must say this is almost an Orwellian experience for me to have you here today as opposed to your appearance last February when you came before this committee and gave a dramatically different view of the readiness and requirements that the military needs to maintain our capabilities.

Sen. John McCain⁷¹

...policy debate about the costs and benefits of proposals to enhance readiness tends to be confused. When concern about the {readiness} issue peaks...confusion also peaks.

Dr. Richard Betts⁷²

Like most politically charged topics, advocates or opponents of certain positions often oversimplify both problems and solutions. Military Readiness, because it is a multifaceted, highly complex issue is no exception. Unfortunately, oversimplification tends to lead to a general sense of confusion concerning where the readiness decline comes from and how best to reverse it. While confusion may well explain the current lack of clarity and depth regarding solutions to the readiness crisis, it certainly does not excuse it.

⁷¹ Comment directed to the Joint Chiefs of Staff during Congressional hearings. Congress, Senate, Committee on Armed Services, *Status of U.S. Armed Forces: Hearing before the Committee on Armed Services*, 105th Congress, 2nd Session, 29 September 1998.

⁷² Betts, 30.

For instance, to suggest that the readiness of the Army---and by association, its ability to prevail in a "two MTW" scenario with the proper quality and quantity of soldiers will dramatically increase by improving quality of life issues is misleading. In the words of one exasperated U.S. Senator during recent congressional hearings on readiness, "the best quality of life, is to bring troops back alive."⁷³

The confusion over readiness begins with its very definition. As mentioned in the beginning of this study, in order to have an informed discussion of readiness the issue must be viewed from the perspective of the following questions: 1) What should be ready? 2) What should it be ready for? 3) How soon should it be ready? Without the framework these questions provide, discussion of the readiness issue is problematic at best. The additional perspectives of operational and structural readiness are also necessary to further define the nature of the problem and its solution.

The current quality of life "fix" proposed by the Joint Chiefs of Staff avoids the more expensive and politically

⁷³ Comment directed to the Joint Chiefs of Staff during Congressional hearings. Congress, Senate, Committee on Armed Services, *Status of U.S. Armed Forces: Hearing before the Committee on Armed Services*, 105th Congress, 2nd Session, 29 September 1998.

unpopular solutions to the problem such as: abandonment of the "two MTW" strategy, increasing the size of the total force, or decreasing PO commitments of the force that is currently available. While quality of life concerns do exist and do influence Army readiness, they are but a small part of the larger readiness problem.

The alternative perspective on readiness that this study advocates, that is, viewing the readiness decline from both operational and structural perspectives, could be extended beyond just the Army's readiness crisis. The basic premise of the model could be used to analyze the readiness declines plaguing the rest of the Armed Forces. The Navy for instance "recently estimated that it was short 18,000 sailors fleetwide"⁷⁴ and that it "sends ships to sea with increasingly skeletal crews."⁷⁵ The Air Force,

...also is worried about personnel shortages. Patrolling no-fly zones in northern and southern Iraq and Bosnia, and putting on shows of force in the air over Kosovo, the Air Force is the busiest it has been since Desert Storm.⁷⁶

The fundamentals that underlie the readiness crises of the Army's sister services are similar to its own.

⁷⁴ Pexton, "Dwindling Ranks," 12.

⁷⁵ Parker, "Readiness May Decline," 8.

⁷⁶ Pexton, "Dwindling Ranks," 12.

Increasingly, the U.S. Military, not just the Army, is being called upon to do too much with too little.

**APPENDIX A. 36 MONTH READINESS DECLINE WHEN 3 BATTALIONS OF
THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO**

Month	# Deployed % Ready	# Supporting % Ready	# Not Yet % Ready	# Recovering % Ready	Later Deploying Division Readiness
4	3@60	1@70	29@90	0	86.6
8	3@60	1@70	25@90	3@70 1@80	84.5
12	3@60	1@70	21@90	1@90 4@80 3@70	83.6
16	3@60	1@70	17@90	5@90 4@80 3@70	83.6
20	3@60	1@70	13@90	9@90 4@80 3@70	83.6
24	3@60	1@70	9@90	13@90 4@80 3@70	83.6
28	3@60	1@70	5@90	17@90 4@80 3@70	83.6
32	3@60	1@70	1@90	21@90 4@80 3@70	83.6
36	3@60	1@70	0@90	22@90 4@80 3@70	83.6

**APPENDIX B. 36 MONTH READINESS DECLINE WHEN 6 BATTALIONS OF
THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO**

Month	# Deployed % Ready	# Supporting % Ready	# Not Yet % Ready	# Recovering % Ready	Later Deploying Division Readiness
4	6@60	2@70	25@90	0	83.3
8	6@60	2@70	17@90	6@70 2@80	79.0
12	6@60	2@70	9@90	2@90 8@80 6@70	79.0
16	6@60	2@70	1@90	10@90 8@80 6@70	79.0
20	6@60	2@70	0@90	11@90 8@80 6@70	79.0
24	6@60	2@70	0@90	11@90 8@80 6@70	79.0
28	6@60	2@70	0@90	11@90 8@80 6@70	79.0
32	3@60	1@70	1@90	11@90 8@80 6@70	79.0
36	3@60	1@70	0@90	11@90 8@80 6@70	79.0

**APPENDIX C. 36 MONTH READINESS DECLINE WHEN 12 BATTALIONS
OF THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO**

Month	# Deployed % Ready	# Supporting % Ready	# Not Yet % Ready	# Recovering % Ready	Later Deploying Division Readiness
4	12@60	4@70	17@90	0	76.6
8	12@60	4@70	5@90	4@80 12@70	68.1
12	1@60 4@50 7@40	4@50	0@90	5@80 12@70	60.0
16	5@50 7@40	4@50	0@90	1@80 1@70 8@60 7@50	51.8
20	1@50 7@30 3@20	1@40	0@90	10@60	43.6
24	10@30 2@20	4@30	0@90	2@60 2@50 10@40 3@30	35.4
28	2@30 2@20 4@10 4@0	4@20	0@90	2@50 13@40 2@30	27.2
32	2@20 8@10 2@0	4@20	1@90	1@50 4@40 4@30 4@20 4@10	19.6
36	1@20 1@10 1@00	4@10	0@90	3@30 12@20 2@10	12.7

**APPENDIX D. 36 MONTH READINESS DECLINE WHEN 15 BATTALIONS OF
THE LATER DEPLOYING DIVISION ARE COMMITTED TO A PO**

Month	# Deployed % Ready	# Supporting % Ready	# Not Yet % Ready	# Recovering % Ready	Later Deploying Division Readiness
4	15@60	5@70	13@90	0	73.3
8	13@60 2@40	5@40	0@90	3@80 10@70	60.6
12	3@50 10@40 2@10	3@40 2@20	0@90	10@70 3@50	47.8
16	10@40 3@20 2@10	3@30 2@20	0@90	9@50 2@30 2@20	35.1
20	9@20 1@10 5@0	5@20	0@90	5@50 6@30 2@20	23.0
24	5@20 1@00	5@0	0@90	7@30 1@20 5@10	16.9
28	15@0	5@0	0@90	13@10	1.0
32	15@0	5@0	0@90	17@0	0.0
36	15@0	5@0	1@90	17@0	0.0

SELECTED BIBLIOGRAPHY

Bateman, Robert, L. "The Peace Brigade-A Hybrid Unit for Real-World Missions," *Army Magazine*, December 1994, 8.

Betts, Richard K., *Military Readiness: Concepts, Choices, Consequences*, Washington D.C.: The Brookings Institution Press, 1995.

Botters, Robert, Jr., *The Proliferation of Peace Operations and US Army Tactical Proficiency: Will the Army Remain a Combat Ready Force?*, Fort Leavenworth, Kansas: School of Advanced Military Studies, U.S. Army Command and General Staff College, 1996.

Cable, Larry, "Reinventing the Round Wheel: Insurgency, Counter-Insurgency, and Peacekeeping Post Cold War." *Small Wars and Insurgencies*, Vol.4, No.2 (Autumn 1993).

Cimbala, Stephen, J., "Military Persuasion and the American Way of War." *Strategic Review*, (Fall 1994).

Dorff, Robert, H., "Democratization and Failed States: The Challenge of Ungovernability." *Parameters*, (Summer 1996).

Fuller, Leslie, L., *Role of United States Special Operations Forces in Peace Operations*, Carlisle Barracks, Pennsylvania: U.S. Army War College, 1996.

Haffa, Robert, P., "A 'New Look' At the BUR: Planning US General Purpose Forces for a New Century." *Strategic Review*, (Winter 96).

Halverson, Ronald R., and Paul D. Bliese, "Determinants of Soldier Support for Operation Uphold Democracy." *Armed Forces & Society*, vol.23, no.1, (Fall 1996).

Hosmer, Stephen, L., Maren Leed, David Persselin, Jerry M. Sollinger, Ronald E. Sortor and Jennifer Morrisson Taw, *Bettering the Balance: Large Wars and Small Contingencies*, Santa Monica, California: RAND Issue Paper 167, 1997.

La Rocque, Gene, prod., *Ready or Not? American Combat Readiness* (Washington D.C., America's Defense Monitor, 1995); available from [<http://www.cdi.org/adm/Transcripts/827/index.html>].

Miller, Laura L., "Do Soldiers Hate Peacekeeping? The Case of Preventive Diplomacy in Macedonia." *Armed Forces & Society*, vol.23, no. 3, (Spring 1997).

Newman, Richard J., "Can Peacekeepers Make War." *U.S. News and World Report*, 19 January 1998.

Phillips, Ed., "Army SOF: Right Tool for OOTW." *Special Warfare*, (Summer 97).

Quinlivan, James, T., *Force Requirements in Stability Operations*, Santa Monica, California: RAND, RP-479, 1996.

Sortor, Ronald E., *Army Forces for Operations Other Than War*, Santa Monica, California: RAND, MR 852-A, 1997.

Stofft, William, A., and Gary L. Guertner, "Ethnic Conflict: The Perils of Military Intervention." *Parameters*, (Spring 95).

Taw, Jennifer, M., and John E. Peters, "Operations Other Than War: Implications for the US Army." *Small Wars and Insurgencies*, vol. 6, no. 3 (Winter 95).

Taw, Jennifer, M., and Alan Vick, *From Sideshow to Center Stage: MOOTW, Strategic Appraisal 1997: Stately and Defense Planning for the 21st Century*, Santa Monica, California: RAND, MR-826-AF, 1997.

U.S. Congress. Senate. Committee on Armed Services. *Status of U.S. Armed Forces: Hearing before the Committee on Armed Services*. 105th Congress, 2nd Session, 29 September 1998.

U.S. Army Center for Army Lessons Learned, Able Sentry Interview-01 LTC Ham, Cdr., 1-6 Inf. Bn., Fort Leavenworth Kansas: Center for Army Lessons Learned, 18 August 1995.

U.S. General Accounting Office Report to Congressional Requesters, *Peace Operations: Effect of Training, Equipment, and Other Factors on Unit Capability*, Washington D.C.: General Accounting Office, GAO/NSIAD-96-14, October 1995.

-----*Military Readiness: Improvements Still Needed in Assessing Military Readiness*, Washington D.C.: General Accounting Office, GAO/T-NSIAD-97-107, March 1997.

-----*Military Readiness: Congress Needs Better Tools for Effective Oversight*, Washington D.C.: General Accounting Office, GAO/T-NSIAD-98-124, March 1998.

-----*Military Readiness: A Clear Policy Is Needed to Guide Management of Frequently Deployed Units*, Washington D.C.: General Accounting Office, GAO/NSIAD-96-105, April 1996.

-----*Military Readiness: Observations on Personnel Readiness in Later Deploying Divisions*, Washington D.C.: General Accounting Office, GAO/NSIAD-98-126, March 1998.

-----*Military Readiness: Reports to Congress Provide Few Details on Deficiencies and Solutions*, Washington D.C.: General Accounting Office, GAO/NSAID-98-68, March 1998.

Wolff, James, J., *The Evolution of US Army Peace Operations*, Monterey, California: Naval Postgraduate School Thesis, 1995.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center.....2
8725 John J. Kingman Rd., STE 0944
Fort Belvoir, VA 22060-6218
2. Dudley Knox Library.....2
Naval Postgraduate School
411 Dyer Rd.
Monterey, CA 93943
3. Professor Gordon H. McCormick.....5
Code CC/Mc
Naval Postgraduate School
Monterey, CA 9393
4. Professor Bard Mansager.....1
Code MA/Ma
Naval Postgraduate School
Monterey, CA 93933
5. The Honorable Rudy deLeon.....1
Undersecretary of Defense
(Personnel and Readiness)
4000 Defense Pentagon
Washington D.C. 20301-4000
6. The Honorable H. Allen Holmes.....1
Assistant Secretary of Defense for SO/LIC
The Pentagon, RM 2E258
Washington, DC 20301-2500
7. GEN Peter J. Schoomaker.....1
Commander in Chief
US Special Operations Command
MacDill AFB, FL 33608-6001
8. LT GEN William Tagney.....1
Commander
US Army Special Operations Command
Ft. Bragg, NC 28307-5000
9. Jennifer Duncan.....1
Center for Special Operations
Code CC/Jd
Naval Postgraduate School
Monterey, CA 93943-5000

10. Library.....1
Army War College
Carlisle Barracks, PA 17013
11. Department of Military Strategy.....1
National War College (NWMS)
Ft. Leslie J. McNair
Washington DC 20319-6111
12. US Army Command and General Staff College.....1
ATTN: Library
West Point, NY 10996
13. Jim Quinlivin.....1
RAND
1700 Main Street
P.O. Box 2138
Santa Monica, CA 9047-2138
14. Dr. Richard Betts.....1
1326 International Affairs Building
Columbia University
420 West 118th Street
New York, New York 10027
15. Dr. Craig College.....1
DACS-DPZ-B-Room 3C718
Chief of Staff
200 Army Pentagon
Washington D.C. 20310-0200
16. Dr. Edward L. Warner III.....1
Assistant Secretary of Defense for Strategy and
Threat Reduction
Room 4E817
2900 Defense Pentagon
Washington D.C. 20301-2900
17. Andrew Hoehn.....1
Office of Assistant Secretary of Defense for
Strategy and Threat Reduction
Room 4B724
2900 Defense Pentagon
Washington D.C. 20301-2900

18. Dr. Chris Lamb.....1
Office of Assistant Secretary of Defense for
Strategy and Threat Reduction
Room 4B724
2900 Defense Pentagon
Washington D.C. 20301-2900
19. Raymond Dominguez.....1
Office of the Assistant Secretary of Defense for
SO/LIC (Forces and Resources)
2500 Defense Pentagon
Washington D.C. 20301-2500